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EXAMINER

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ART UNIT PAPER NUMBER

2621

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,357

Applicant(s)

CAHILL ET AL.

Examiner

Dennis Rosario-Vasquez

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/19/01
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Drawings

1. The informal drawings are not of sufficient quality to permit examination. Accordingly, replacement drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to this Office action. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

Applicant is given a TWO MONTH time period to submit new drawings in compliance with 37 CFR 1.81. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a). Failure to timely submit replacement drawing sheets will result in ABANDONMENT of the application.

Figures 1,2,6,7,8A, 8B, 9,11 are not easy to read.

2. The drawings 8A and 8B are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 804 and 802 in page 11, line 9 and 18, respectively. Corrected

drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to

obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. Page 2 of the specification has two applications that need to be updated with an US Patent application number.
4. Page 8, line 8: "there is an very large set" out to be amended to "there is a very large set".

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16 and 27 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Burt et al. (US Patent 5,649,032 A).

Regarding claims 1 and 26, Burt et al. discloses a method and means for producing a cropped digital image, comprising the steps of:

- a) providing (Fig. 5, step 500 provides or inputs a mosaic image.) a plurality of partially overlapping source digital images (Fig. 2A shows a plurality of partially overlapping images which are used to generate a mosaic image.);

b) means (Fig. 5, step 504:CROPPING) for specifying and providing (Fig. 5, step 504:CROPPING is selected in col. 11, lines 1,2.) a cropping aspect ratio L:H (Fig. 5, step 506:SELECT REGION OF INTEREST SIZE AND SHAPE), the cropping aspect ratio (Fig. 5, step 506:SELECT REGION OF INTEREST SIZE AND SHAPE) being the ratio of the length to the height (A shape of a region of interest can be a square, rectangle, triangle which has dimensions.) of the cropped digital image (Fig. 5, step 518:APPLY SELECTION FUNCTION crops the image based on step 506 of fig. 5.);

c) means for specifying and providing a cropping criterion (Fig. 5, step 502:SELECT SELECTION FUNCTION AND PARAMETERS), the cropping criterion (Fig. 5, step 502:SELECT SELECTION FUNCTION AND PARAMETERS) being a criterion (Fig. 5, step 502:SELECT SELECTION FUNCTION AND PARAMETERS use parameters to control the cropping function in col. 11, lines 2-4.) for the size ("SIZE" of step 506) and location ("REGION OF INTEREST" of step 506) of the cropped digital image (Fig. 5, step 518:APPLY SELECTION FUNCTION crops the image based on step 506 of fig. 5.);

d) means for combining (Fig. 3,num. 304:COMBINATION PROCESS) the source digital images (Fig. 2A shows a plurality of partially overlapping images for combining.) to form a composite digital image (Fig. 2A shows a plurality of partially overlapping images which are used to generate a mosaic image.);

Art Unit: 2621

e) means for selecting the cropping region (Fig. 5, step 506:SELECT REGION OF INTEREST SIZE AND SHAPE) of the composite digital image (mosaic image of figure 2A.) according to the cropping criterion (Fig. 5, step 502:SELECT SELECTION FUNCTION AND PARAMETERS), said cropping region (Fig. 5, step 506:SELECT REGION OF INTEREST SIZE AND SHAPE) being a rectangular region having aspect ratio L:H (A shape of a region of interest according to step 506 of figure 5 can be a square, rectangle, triangle which has dimensions.), and having size ("SIZE" of step 506) and location ("REGION OF INTEREST" of step 506) determined by the cropping criterion (Fig. 5, step 502:SELECT SELECTION FUNCTION AND PARAMETERS) and;

f) means for cropping (Fig. 5, step 518:APPLY SELECTION FUNCTION crops the image based on step 506 of fig. 5.) the composite digital image (mosaic image of figure 2A.) to the cropping region (Fig. 5, step 506:SELECT REGION OF INTEREST SIZE AND SHAPE) to form a cropped digital image (at the output of step 518: APPLY SELECTION FUNCTION.).

Regarding claim 2, Burt et al. discloses the method claimed in claim 1, wherein the step of providing (Fig. 5, step 500 provides or inputs a mosaic image.) source digital images (Fig. 2A shows a plurality of partially overlapping images which are used to generate a mosaic image.) further comprises the step of digitizing (The source images "taken" contain "a data structure" in col. 3, lines 38-40. Thus, images data that contain a data structure from a taken image corresponds to a step of digitizing.) source photographic images ("photographs" in col. 4, line 30) to form source digital images

(Fig. 2A shows a plurality of partially overlapping images which are used to generate a mosaic image.).

Regarding claim 6, Burt et al. discloses the method claimed in claim 1, further comprising the step of:

g) resizing (fig. 5,num. 512: MOSAIC TRUNCATION) the cropped digital image (at the output of step 518: APPLY SELECTION FUNCTION.) for display (fig. 7,num. 706: DISPLAY MOSAIC).

Regarding claim 7, Burt et al. discloses method claimed in claim 1, further comprising the step of:

g) resizing (fig. 5,num. 512: MOSAIC TRUNCATION) the cropped digital image (at the output of step 518: APPLY SELECTION FUNCTION.) for hardcopy output (Burt et al. states,"...a mosaic based display system[fig. 1,num. 106:IMAGE PRINTING SYSTEM] include[es] an image printing system (col. 2, lines 43,44).".

Regarding claim 8, Burt et al. discloses the method claimed in claim 1, further comprising the step of:

g) transforming the pixel values (Fig. 7, num. 706: ANCILLARY IMAGE INFORMATION) of the cropped digital image (at the output of step 518: APPLY SELECTION FUNCTION and output of fig. 7, num. 702:IMAGE SELECTION PROCESS.) to an output device (Fig. 7, num. 706:DISPLAY MOSAIC) compatible color space (The ancillary image information is used to change the color of the mosaic for display 706 in col. 13, lines 5-9.).

Regarding claim 9, Burt et al. discloses the method in claim 1, wherein the source digital images (Fig. 2A shows a plurality of partially overlapping images which are used to generate a mosaic image.) have pixel values that are linearly (Fig. 4 is an IMAGE ALIGNMENT PROCESS 300 described from col. 7, line 20 to col. 10, line 41 that is based on a linear model in col. 10, lines 16,17 that has an intensity related to noise in col. 9, lines 26,27 to align the images of figure 2A. Thus, the images of figure 2A has an intensity related to noise and are aligned using a linear model.) or logarithmically related to scene intensity.

Regarding claim 10, Burt et al. discloses the method claimed in claim 9, wherein the step of providing source digital images (Fig. 2A shows a plurality of partially overlapping images which are used to generate a mosaic image.) further comprises applying a metric transform to a source digital image ("alignment parameters" are used to transform an image in col. 10, lines 25-27.) such that the pixel values of the source digital image are linearly or logarithmically related to scene intensity (Fig. 4 is an IMAGE ALIGNMENT PROCESS 300 described from col. 7, line 20 to col. 10, line 41 that is based on a linear model in col. 10, lines 16,17 that has an intensity related to noise in col. 9, lines 26,27 to align the images of figure 2A. Thus, the images of figure 2A has an intensity related to noise and are aligned using a linear model.).

Claim 11 is worded similarly to claim 10, thus claim 11 was addressed in claim 10.

Regarding claim 12, Burt et al. discloses the method claimed in claim 9, wherein the step of providing source digital images (Fig. 2A shows a plurality of partially overlapping images which are used to generate a mosaic image.) further comprises applying radial exposure transforms (Object illumination corresponds to a radial exposure due to illumination that is determined using a pyramid that corresponds to a transform in col. 15, lines 34-40.) to one or more of the source digital images (Fig. 2A shows a plurality of partially overlapping images which are used to generate a mosaic image.) to compensate for exposure falloff (Residuals are compensated for in col. 15, lines 52-55. Note that residuals encompass object illumination and other features in col. 15, lines 44-46. Thus, object illumination is compensated.)

Regarding claim 13, Burt et al. discloses the method claimed in claim 1, wherein the step of combining (Fig. 3,num. 304:COMBINATION PROCESS) source digital images (Fig. 2A shows a plurality of partially overlapping images for combining.) further comprises the steps of:

i) warping the source digital images to compensate for distortion due to perspective projection, yielding warped digital images (Burt et al. states, " The aligning process [shown in figure 3,num. 300:ALIGNMENT PROCESS] is accomplished by warping the images to one another (col. 5, lines 63,64).");

ii) aligning the warped digital images to identify overlapping regions (Figure 2A shows a group equally spaced images that are aligned using the aligning process shown in figure 3,num. 300:ALIGNMENT PROCESS with overlapping portions shown by the dashed rectangles and mentioned in col. 17, lines 35-37.); and

iii) blending (Fig. 3,num. 304:COMBINATION PROCESS receives the aligned image outputted from fig. 3,num. 300 via numeral 302 to “seamlessly combine” images in col. 6, lines 18-21.) the warped digital images in the overlapping regions (Figure 2A shows a group equally spaced images that are aligned using the aligning process shown in figure 3,num. 300:ALIGNMENT PROCESS with overlapping portions shown by the dashed rectangles and mentioned in col. 17, lines 35-37.) to form a composite digital image (Output of figure 3,num. 304 is a composite digital image.).

Regarding claim 14, Burt et al. discloses the method claimed in claim 13, wherein the step of blending warped digital images (Fig. 3,num. 304:COMBINATION PROCESS receives the aligned image outputted from fig. 3,num. 300 via numeral 302 to “seamlessly combine” images in col. 6, lines 18-21.) includes (Fig. 3, num. 304: COMBINATION PROCESS receives weight from fig. 3, num. 302:SELECTION PROCESS) calculating a weighted average of the pixel values (fig. 3,num. 302: SELECTION PROCESS calculates a weight shown in detail in figure 5,num. 511: WEIGHTING for the aligned image which contains overlap.) in the overlapping region (Weights are applied to an image with overlap regions shown in figure 2A.).

Regarding claim 16, Burt et al. discloses the method claimed in claim 1, wherein the step of combining (Fig. 3,num. 304:COMBINATION PROCESS) source digital images (Fig. 2A shows a plurality of partially overlapping images for combining.) further comprises warping (Fig. 3, num. 304:COMBINATION PROCESS receives ALIGNMENT INFORMATION which warps images together.) a composite digital image (Fig. 3, Label : INPUT IMAGE) to simulate projection onto a geometrical surface (Fig. 7,num. 706 is a flat surface for displaying an image.) suitable for viewing.

Regarding, claim 27, Burt et al. discloses a computer program product for performing the method of claim 1 in figure 8, num. 812:STORAGE.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3,4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burt et al. (US Patent 5,649,032 A) in view of Armstrong et al. (US Patent 6,580,457 B1).

Regarding claim 3, Burt et al. does not teach the limitation of claim 3, but does suggest that a user can select a size in col. 11, lines 2-6. Thus, a user can select any size from small to large.

Art Unit: 2621

However, Armstrong et al., in the field of endeavor of electronic photography, teaches a cropping criterion (Fig. 9, num. 81: # VERTICAL LINES = TOTAL VERTICAL LINES IN IMAGER) that specifies that a cropped digital image (Figure 5a contains a smaller rectangle labeled: MODE 1 640 X 480 IMAGE) is the composite digital image region (The smaller rectangle labeled: MODE 1 640 X 480 IMAGE.) having a largest area (The smaller rectangle contains the largest area of the image of fig. 5a.) out of the set of composite digital image regions (Fig 5a has regions of a top, bottom, left, and right regions which are labeled as "CROPPED".) having aspect ratio L:H (In reference to the bottom cropped margin; 640 for the length and 18 lines high.)

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Burt et al.'s teaching of selecting a size for dropping with Armstrong et al.'s teaching of selecting a larger size for cropping because "The images remain of good quality with a faster overall frame rate [for all modes 1-3 in col. 5, lines 6-9] (Armstrong et al., col. 5, lines 27-29)." Note that mode 1 corresponds to the image of figure 5a.

Regarding claim 4, Armstrong et al. teaches a cropping criterion (Fig. 9,num. 81:# VERTICAL LINES=TOTAL VERTICAL LINES IN IMAGER) that specifies that a cropped digital image (Figure 5a contains a smaller rectangle labeled: MODE 1 640 X 480 IMGAE) is the composite digital image region (The smaller rectangle labeled: MODE 1 640 X 480 IMAGE.) having largest area (The smaller rectangle contains the largest area of the image of fig. 5a.) out of the set of composite digital image regions (Fig 5a has regions of a top, bottom, left, and right regions which are labeled as "CROPPED".) having aspect ratio L:H (In reference to the bottom cropped margin; 640 for the length and 18 lines high.) that are centered at the centroid of a composite digital image (The smaller rectangle labeled as MODE 1 is shown centered in figure 5a and mentioned in col. 5, lines 4-6 with other regions surrounding the smaller rectangle.).

Regarding claim 5, Armstrong et al. teaches a method wherein a cropping criterion specifies that the cropped digital image is the composite digital image region having largest area out of the set of composite digital image regions having aspect ratio L:H that are centered at the centroid (Addressed in claim 4) of the main subject (The smaller rectangle, mode 1, of figure 5a can be non-centered in col. 5, lines 7-9 and 48,49.) of the composite digital image (The smaller rectangle labeled as MODE 1 is shown centered in figure 5a and mentioned in col. 5, lines 4-6 with other regions surrounding the smaller rectangle.).

9. Claims 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burt et al. (US Patent 5,649,032 A) in view of Seitz et al. (View Mophing, Proceedings of the 23rd annual conference on Computer graphics and interactive techniques, ACM Press, 1996, pp. 21-30).

Regarding claim 15, Burt et al. does not teach the limitation of claim 15, but does suggests other forms of blending shown in figure 6,num. 614:OTHER.

However, Seitz et al. teaches a method, wherein a step of blending warped digital images (fig. 4 has images I_0 with “^” on top of I_0 and I_1 with a “^” on top of I_1 are warp images that corresponds to step 1 or prewarping on page 24, right column.) further comprises the steps of:

i) projecting (A projective transform “H” is applied to the images I_0 with “^” on top of I_0 and I_1 with a “^” on top of I_1 in the above step 1.) the warped digital images (fig. 4 has images I_0 with “^” on top of I_0 and I_1 with a “^” on top of I_1 are warped images that corresponds to step 1 or prewarping on page 24, right column.) to simulate image capture on parallel image planes (Fig 4 shows the images I_0 with “^” on top of I_0 and I_1 with a “^” on top of I_1 in a parallel plane.), forming projected digital images (The images I_0 with “^” on top of I_0 and I_1 with a “^” on top of I_1 are pre-warped and projected digital images);

ii) morphing (Step 2:Morph on page 24, right column) the projected digital images (The images I_0 with “^” on top of I_0 and I_1 with a “^” on top of I_1 are pre-warped and projected digital images) in the overlapping regions (Morphing of step 2 uses “corresponding points” between both of the above images.) to form a projected

composite digital image (Figure 4, image I_s with a “^” on top of the I_s is generated from the above two images.)

iii) choosing viewing parameters (Page 26, section 4.1:Controlling the Morph using “ H_s ” allows interaction of the morphing.) for a composite digital image (fig. 4, image I_s); and

iv) re-projecting (Step 3:Postwarp on page 24, right column uses a projective transform, “H”.) the projected composite digital image (Figure 4, image I_s with a “^” on top of the I_s is generated from the above two images.) to simulate image capture with the chosen viewing parameters (Page 26, section 4.1:Controlling the Morph [step 2 on page 24,right column] using “ H_s ” allows interaction of the morphing.), forming a composite digital image (fig. 4, image I_s).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Burt et al.’s teaching of another blending technique shown in figure 6, num. 614:OTHER with Seitz et al.’s teaching of blending or “view morphing enables transitions between images of different objects that give a strong sense of metamorphosis in 3D (Seitz et al., page 27, section: CONCLUSIONS).”

10. Claims 17,18, 22, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burt et al. (US Patent 5,649,032 A) in view of Yoshida et al. (US Patent 6,266,128 B1).

Regarding claim 17, Burt et al. does not teach the limitation of claim 17, but does suggest that a user can select a size and shape of an image as shown in figure 5,num. 506: SELECT REGION OF INTEREST SIZE AND SHAPE.

However, Yoshida et al., in the field of endeavor of printing images from a camera, teaches claim 17 of a method, wherein an aspect ratio is a portrait aspect ratio and landscape ratio in col. 7, lines 47-56.

Claim 18 was addressed in claim 17.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Burt et al.'s suggestion of a user selectable size and shape with Yoshida's teaching in col. 7, lines 47-56, because Yoshida's teaching "has a good or fine appearance, without making a useless or wasteful space on the printing paper (Yoshida, col. 8, lines 3-7)."

Regarding claim 22, the combination of Yoshida teaches the method claimed in claim 1, wherein the aspect ratio is 2:3 and 9:16 and 1:3 in col. 7, lines 42-47.

Claims 23 and 24 were addressed in claim 22.

11. Claims 19, 20, 21 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burt et al. (US Patent 5,649,032 A) in view of Suzuki et al. (US Patent 6,094,218 A).

Regarding claim 19, Burt et al. does not teach the limitation of claim 17, but does suggest that a user can select a size and shape of an image as shown in figure 5,num.

506: SELECT REGION OF INTEREST SIZE AND SHAPE.

However, Suzuki et al., in the field of endeavor of displaying and trimming images, teaches the limitation of claim 19, wherein the aspect ratio is 3:2 and 16:9 and 3: 1 in col. 6, lines 36-39.

Claims 20 and 21 were addressed in claim 19.

Regarding claim 25, Suzuki et al. teaches a method, wherein an aspect ratio ("aspect ratio" in col. 9, line 48) is included as meta-data ("magnetic information" in col. 9, line 49) with at least one source digital image ("frame image obtained from the scanner (col. 9, line 51)...").

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Burt et al.'s teaching of a user selectable size and shape with Suzuki et al.'s teaching of an aspect ratio as meta data, because "a user can easily and simply perform an operation to obtain the desired image...and...can save the results (Suzuki et al., col. 4, lines 46-50)."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Freedenberg et al. (US Patent Application Publication 2003/0040971 A1) is pertinent as teaching a method of displaying an image using meta data as shown in figure 3.

Kopp et al. (US Patent 4,150,360 A) is pertinent as teaching a method of a radial Fourier transform of light energy in col. 8, lines 10-15.

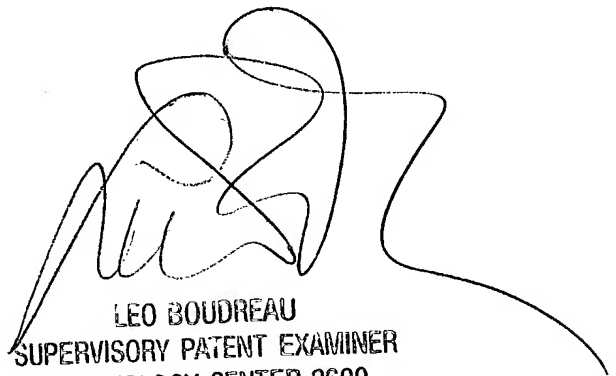
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Rosario-Vasquez whose telephone number is 703-305-5431. The examiner can normally be reached on 9-5.

Art Unit: 2621

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau can be reached on 703-305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DRV
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